

SEQUENCE LISTING

<110> Hannah, L. Curtis
Greene, Thomas W.

<120> Heat Stable Mutants of Starch Biosynthesis Enzymes

<130> UF-178AXC2

<150> US 09/312,433

<151> 1999-05-14

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<151> 1998-05-14

<150> US 08/972,545

<151> 1997-11-18

<150> US 60/031,045

<151> 1996-11-18

<160> 36

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<211> 33

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<213> HS 33 Mutant of Zea mays

<400> 1

Leu	His	Asp	Phe	Gly	Ser	Glu	Ile	Leu	Pro	Arg	Ala	Val	Leu	Asp	Tyr
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Ser	Val	Gln	Ala	Cys	Ile	Phe	Thr	Gly	Tyr	Trp	Glu	Asp	Val	Gly	Thr
		20						25					30		

Ile

<210> 2

<211> 33

<212> PRT

<213> Zea mays

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Leu	His	Asp	Phe	Gly	Ser	Glu	Ile	Leu	Pro	Arg	Ala	Val	Leu	Asp	His
1				5				10					15		

Ser	Val	Gln	Ala	Cys	Ile	Phe	Thr	Gly	Tyr	Trp	Glu	Asp	Val	Gly	Thr
		20						25					30		

Ile

<210> 3
 <211> 33
 <212> PRT
 <213> Triticum aestivum

<400> 3

Leu His Asp Phe Gly Ser Glu Ile Leu Pro Arg Ala Leu His Asp His
 1 5 10 15

Asn Val Gln Ala Tyr Val Phe Thr Asp Tyr Trp Glu Asp Ile Gly Thr
 20 25 30

Ile

<210> 4
 <211> 33
 <212> PRT
 <213> Hordeum vulgare

<400> 4

Leu His Asp Phe Gly Ser Glu Ile Leu Pro Arg Ala Leu His Asp His
 1 5 10 15

Asn Val Gln Ala Tyr Val Phe Thr Asp Tyr Trp Glu Asp Ile Gly Thr
 20 25 30

Ile

<210> 5
 <211> 33
 <212> PRT
 <213> Solanum tuberosum

<400> 5

Ser Asn Asp Phe Gly Ser Glu Ile Leu Pro Ala Ala Ile Asp Asp Tyr
 1 5 10 15

Asn Val Gln Ala Tyr Ile Phe Lys Asp Tyr Trp Glu Asp Ile Gly Thr
 20 25 30

Ile

<210> 6
 <211> 26
 <212> PRT
 <213> HS40 Mutant of Zea mays

<400> 6

Ala Gly Lys Val Pro Ile Gly Ile Gly Arg Asn Ile Lys Ile Arg Asn
 1 5 10 15

Cys Ile Ile Asp Met Asn Ala Arg Ile Gly
 20 25

<210> 7
 <211> 26
 <212> PRT
 <213> Zea mays

<400> 7

Ala Gly Lys Val Pro Ile Gly Ile Gly Arg Asn Thr Lys Ile Arg Asn
 1 5 10 15

Cys Ile Ile Asp Met Asn Ala Arg Ile Gly
 20 25

<210> 8
 <211> 26
 <212> PRT
 <213> Triticum aestivum

<400> 8

Glu Gly Lys Val Pro Ile Gly Val Gly Glu Asn Thr Lys Ile Ser Asn
 1 5 10 15

Cys Ile Ile Asp Met Asn Ala Arg Ile Gly
 20 25

<210> 9
 <211> 26
 <212> PRT
 <213> Hordeum vulgare

<400> 9

Glu Gly Lys Val Pro Ile Gly Val Gly Glu Asn Thr Lys Ile Ser Asn
 1 5 10 15

Cys Ile Ile Asp Met Asn Ala Arg Ile Gly
 20 25

<210> 10
 <211> 26
 <212> PRT
 <213> Solanum tuberosum

<400> 10

Glu Gly Lys Val Pro Ile Gly Ile Gly Glu Asn Thr Lys Ile Arg Lys
 1 5 10 15

Cys Ile Ile Asp Lys Asn Ala Lys Ile Gly
 20 25

<210> 11

<211> 11

<212> PRT

<213> Spinicia oleracea

<400> 11

Ile Lys Asp Ala Ile Ile Asp Lys Asn Ala Arg
 1 5 10

<210> 12

<211> 20

<212> PRT

<213> TS48 Mutant of Zea mays

<400> 12

Cys Ser Arg Val Ser Ser Gly Cys Glu Phe Lys Asp Ser Val Met Met
 1 5 10 15

Gly Ala Asp Ile
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<210> 13

<211> 20

<212> PRT

<213> Zea mays

<400> 13

Cys Ser Arg Val Ser Ser Gly Cys Glu Leu Lys Asp Ser Val Met Met
 1 5 10 15

Gly Ala Asp Ile
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<210> 14

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<213> Triticum aestivum

<400> 14

Arg Ser Arg Leu Asn Ser Gly Ser Glu Leu Lys Asn Ala Met Met Met
 1 5 10 15

Gly Ala Asp Ser
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<210> 15

<211> 20

<212> PRT

<213> Hordeum vulgare

<400> 15

Arg Ser Arg Leu Asn Ser Gly Ser Glu Leu Lys Asn Ala Met Met Met
 1 5 10 15

Gly Ala Asp Ser
 20

<210> 16

<211> 12

<212> PRT

<213> Oryza sativa

<400> 16

Ser Ser Arg Val Ser Ser Gly Cys Glu Leu Lys Ile
 1 5 10

<210> 17

<211> 24

<212> PRT

<213> TS60 Mutant of Zea mays

<400> 17

Asp Phe Gly Ser Lys Ile Leu Pro Arg Ala Val Leu Asp His Ser Val
 1 5 10 15

Gln Ala Cys Ile Phe Thr Gly Tyr
 20

<210> 18

<211> 24

<212> PRT

<213> Zea mays

<400> 18

Asp Phe Gly Ser Glu Ile Leu Pro Arg Ala Val Leu Asp His Ser Val
 1 5 10 15

Gln Ala Cys Ile Phe Thr Gly Tyr
20

<210> 19
<211> 24
<212> PRT
<213> Triticum aestivum

<400> 19

Asp Phe Gly Ser Glu Ile Leu Pro Arg Ala Leu His Asp His Asn Val
1 5 10 15

Gln Ala Tyr Val Phe Thr Asp Tyr
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<210> 20
<211> 24
<212> PRT
<213> Hordeum vulgare

<400> 20

Asp Phe Gly Ser Glu Ile Leu Pro Arg Ala Leu His Asp His Asn Val
1 5 10 15

Gln Ala Tyr Val Phe Thr Asp Tyr
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<210> 21
<211> 25
<212> PRT
<213> Oryza sativa

<400> 21

Asp Phe Gly Ser Glu Ile Leu Pro Arg Ala Leu Leu Glu His Asn Val
1 5 10 15

Lys Val Ala Cys Val Phe Thr Glu Tyr
20 25

<210> 22
<211> 25
<212> PRT
<213> TS60 Mutant of Zea mays

<400> 22

Glu Asp Val Gly Thr Ile Lys Ser Phe Phe Asp Ala Asn Leu Val Leu
1 5 10 15

Thr Glu Gln Pro Ser Lys Phe Asp Phe
20 25

<210> 23
<211> 25
<212> PRT
<213> Zea mays

<400> 23

Glu Asp Val Gly Thr Ile Lys Ser Phe Phe Asp Ala Asn Leu Ala Leu
1 5 10 15

Thr Glu Gln Pro Ser Lys Phe Asp Phe
20 25

<210> 24
<211> 25
<212> PRT
<213> Triticum aestivum

<400> 24

Glu Asp Ile Gly Thr Ile Arg Ser Phe Phe Asp Ala Asn Met Ala Leu
1 5 10 15

Cys Glu Gln Pro Pro Lys Phe Glu Phe
20 25

<210> 25
<211> 25
<212> PRT
<213> Hordeum vulgare

<400> 25

Glu Asp Ile Gly Thr Ile Arg Ser Phe Phe Asp Ala Asn Met Ala Leu
1 5 10 15

Cys Glu Gln Pro Pro Lys Phe Glu Phe
20 25

<210> 26
<211> 25
<212> PRT
<213> Oryza sativa

<400> 26

Glu Asp Ile Gly Thr Ile Lys Ser Phe Phe Asp Ala Asn Leu Ala Leu
1 5 10 15

Thr Glu Gln Pro Pro Lys Phe Glu Phe
 20 25

<210> 27
 <211> 20
 <212> PRT
 <213> RTS48-2 Mutant of Zea mays

<400> 27

Thr Gln Met Pro Glu Glu Pro Val Gly Trp Phe Gln Gly Thr Ala Asp
 1 5 10 15

Ser Ile Arg Lys
 20

<210> 28
 <211> 20
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 <213> Zea mays

<400> 28

Thr Gln Met Pro Glu Glu Pro Ala Gly Trp Phe Gln Gly Thr Ala Asp
 1 5 10 15

Ser Ile Arg Lys
 20

<210> 29
 <211> 20
 <212> PRT
 <213> Triticum aestivum

<400> 29

Thr Gln Met Pro Gly Glu Ala Ala Gly Trp Phe Arg Gly Thr Ala Asp
 1 5 10 15

Ala Val Arg Lys
 20

<210> 30
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 <213> Hordeum vulgare

<400> 30

Thr Gln Met Pro Gly Glu Ala Ala Gly Trp Phe Arg Gly Thr Ala Asp
 1 5 10 15

Ala Val Arg Lys
20

<210> 31
<211> 20
<212> PRT
<213> Oryza sativa

<400> 31

Thr Gln Met Pro Asp Glu Pro Ala Gly Trp Phe Gln Gly Thr Ala Asp
1 5 10 15

Ala Ile Arg Lys
20

<210> 32
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<213> RTS60-1 Mutant of Zea mays

<400> 32

Asp Lys Cys Lys Met Lys Tyr Val Phe Ile Ser Asp Gly Cys Leu Leu
1 5 10 15

Arg Glu

<210> 33
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<400> 33

Asp Lys Cys Lys Met Lys Tyr Ala Phe Ile Ser Asp Gly Cys Leu Leu
1 5 10 15

Arg Glu

<210> 34
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<213> Triticum aestivum

<400> 34

Asp Lys Cys Arg Ile Lys Glu Ala Ile Ile Ser His Gly Cys Phe Leu
1 5 10 15

Arg Glu

<210> 35
<211> 18
<212> PRT
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<400> 35

Asp Lys Cys Arg Ile Lys Glu Ala Ile Ile Ser His Gly Cys Phe Leu
1 5 10 15

Arg Glu

<210> 36
<211> 20
<212> PRT
<213> Oryza sativa

<400> 36

Asp Lys Cys Lys Cys Lys Ile Lys Asp Ala Ile Ile Ser Asp Gly Cys
1 5 10 15

Ser Phe Ser Glu
20